

## IN THE SPECIFICATION

2.0 Please note that a substitute specification is included which includes the following changes to the application as filed. Line numbering is determined from the original application as filed. (where the original line numbering for any pages is in error, the lines are counted from the top of each page)

2.1 At page 1, lines 16 & 17 delete the words "similarly, U. S. Patent."

2.2 At page 1, 11 lines from the top, the words --with respect to such control elements-- were added following the word "data."

2.3 At page 1, 24 lines from the top, the word --processor-- was added following the word "same" and 25 lines from the top the word --in-- was added after the word "information."

2.4 On page 1, 26 lines from the top, the word --compares-- was substituted for the word "compare."

2.5 On page 2, at 8, 10, and 16 lines from the top, the word "instant" was replaced by the word --present --.

2.6 On page 2, 19 lines from the top, the word "instant" was replaced by the words --control system of the present--.

2.7 On page 2, 19 lines from the top, the word "comprising" was replaced by the words --control system platform or computer system having--.

2.8 On page 2, 24 lines from the top, the word "Voting" was replaced by the words --A voting system with voting--.

2.9 On page 2, 29 lines from the top, the word --faulty-- was inserted to replace the word "faultily."

2.10 On page 3, 3 lines from the top, the word "instant" was replaced by the word --present--.

2.11 On page 3, 25 lines from the top, the word "operating" was replaced with the word --operates--.

2.12 On page 3, 29 lines from the top, the word "I/O" was replaced with the word --I/O--.

2.13 On page 3, 30 lines from the top, the word "IO" was replaced with the word --I/O--.

2.14 On page 6, 15 lines from the top, the word "instant" was replaced with the word --present--.

2.15 On page 6, 26 lines from the top, the word "plat" was replaced with the word

--plant--.

2.16 On page 7, line 1, the word --structure-- was added after the word "housing."

2.17 On page 9, last line, the word "Figure " was replaced with the word  
--Figures--.

5 2.18 On page 10, 3 lines from top, the word "Figure " was replaced with the word  
--Figures-

2.19 On page 10, line 4, the word "Figure" was replaced with the words --Figures  
9A-9B--.

10 2.20 On page 10, line 7, the words "Figures 11A & 11B" were replaced with the  
words --Figures 11A-11B--.

2.21 On page 10 lines 17-21 change each occurrence of the word "Figure " to the  
word --Figures--.

2.22 On page 11, at the top thereof, add the word --OVERVIEW--.

15 2.23 On page 11, line 1, delete the word "one" and after the word "MP" add the  
words --I/O modules 1 (Sometimes referred to alternatively as LMP/LIOP in the  
specifications and drawings--.

2.24 On page 11, line 4, after the words "base plate" add the words --as shown in  
Figures 5A and 5B--.

20 2.25 On page 11, 8 lines from top, the word "instant" was replaced with the word  
--present--.

2.26 On page 11, 30 lines from the top, add the word --/IOP-- after the word "MP".

2.27 On page 12, 2 lines from top, the numeral "1111" was replaced with the  
numeral --11--.

25 2.28 On page 12, 11 lines from top, the numeral "1111" was replaced with the  
numeral --11--.

2.29 On page 12, 20 lines from the top, the words "module 1" was deleted and the  
word "OP" was replaced with the word --IOP--.

2.30 On page 12, 21 lines from the top, add the word --/IOP-- after the word "MP"  
and the numeral --1-- after the word "module."

30 2.31 On page 14, 10 lines from the top, ", one" was replaced with --One--.

2.32 On page 14, 16 lines from the top, the words --mounted on rail 66 as shown in  
Figures 5A & 5B-- were added after the word "like."

2.33 On page 14, 18 lines from the top, the words --on the rail thus permitting  
expansion on the rail or to multiple rails-- were added after the word "modules."

- 2.34 On page 14, 26 lines from the top, the characters "1." were replaced with the numeral --1--.
- 2.35 On page 15, 25 lines from the top, the word "Each" was replaced with the words --MP/IOP module 1 monitors each--.
- 5 2.36 On page 15, 30 lines from the top, the words "I/O Communications" were replaced with the words --IOP --.
- 2.37 On page 16, 7 lines from the top, the words "Pulse Input" were replaced with the words—Relay Output—and the words "(PI)" were replaced with the words – (RO)--..
- 10 2.38 On page 16, 22 lines from the top, after the words "Bus A" insert the words --as shown in Figure 2. A redundant or hot spare is illustrated as 26'--.
- 2.39 On page 17, 7 lines from the top, the characters "- in" were replaced with the word --. In--.
- 15 2.40 On page 17, 8 lines from top, the word "on" was replaced with the word --"on"--.
- 2.41 On page 17, 27 lines from the top, after the word "2c" insert the words --as shown in Figure 6,--.
- 2.42 On page 17, 32 lines from top, the numeral "1111" was replaced with the numeral --11--.
- 20 2.43 On page 18, 4 lines from the top the word "Analogy" is replaced with the word --analog--.
- 2.44 On page 18, 5 lines from the top the word "analogy" is replaced with the word --analog--.
- 2.45 On page 18, 18 lines from top, add the words --DETAILED DESCRIPTION--.
- 25 2.46 On page 18, 20 lines from top, the numeral "7" was replaced with the numeral --14--.
- 2.47 On page 18, 27 lines from top, the word "instant" was replaced with the word --present--.
- 2.48 On page 19, at lines 4, 21, and 22 lines from top, add the word --/IOP-- after the word "MP."
- 30 2.49 On page 20, 3 lines from top, add the word --channels-- in place of the word "channel."
- 2.50 On page 20, at lines 7, 16, and 22, the word --/IOP-- was added after the word "MP."

- 2.51 On page 20, at line 8, the word "section" was deleted both times it appears on that line.
- 2.52 On page 20, at line 11, add the word --link-- after the word "communication."
- 2.53 On page 20, at line 15, the word --15-- was relocated to the front of the word "sections."
- 2.54 On page 20, at line 16, the numeral "15" was deleted.
- 2.55 On page 20, at line 17, the numeral "1111" was replaced by the numeral --11--.
- 2.56 On page 20, at line 23, the phrase --/IOP module 1-- was added after the word "MP."
- 2.57 On page 20, at line 27, the numeral --17-- was added after the word "IOP."
- 2.58 On page 20, at line 29, the figure --17'-- was added after the word "IOX."
- 2.59 On page 20, at line 30, the word "channel" was changed to --channels--.
- 2.60 On page 20, at line 31, the numeral --17-- was added after the word "IOP."
- 2.61 On page 20, at line 32, the word "IO" was changed to --I/O--.
- 2.62 On page 21, at line 3, the numeral --17-- was added after the word "IOP."
- 2.63 On page 21, at line 4, the figure --17'-- was added after the word "IOX."
- 2.64 On page 21, at line 5, the numeral --17-- was added after the word "IOP."
- 2.65 On page 21, at line 5, the numeral --15-- was added after the word "MP."
- 2.66 On page 21, at line 13, the change each occurrence of the word "a" to --an--.
- 2.67 On page 21, at line 17, the phrase "Figures 6A and 6B" was changed to --Figures 8A and 8B--.
- 2.68 On page 21, at lines 18, 22 and 23, the numeral --17-- was added after the word "IOP" and before the comma.
- 2.69 On page 22, at line 19, the word "a" was changed to --an--.
- 2.70 On page 22, at line 22, the phrase "MP 15" was changed to --MP/IOP-- and the numeral --1-- was inserted after the word "module" before the period.
- 2.71 On page 22, at line 23, the numeral --17-- was added after the word "IOX" and the word "MP" was changed to --MP/IOP--.
- 2.72 On page 22, at line 25, the word --the-- was added before the word "MP" and the word "modules" was deleted after the word "MP."
- 2.73 On page 23, at line 1, the word "instant" was changed to --present--.
- 2.74 On page 23, at line 18, the redundant period was removed before the word "Each."

- 2.75 On page 23, at line 20, the word "IO" was changed to --I/O--.
- 2.76 On page 23, at line 29, the word "MP" was changed to --MP/IOP--.
- 2.77 On page 23, at line 31, the numeral --1-- was added after the word "modules."
- 2.78 On page 24, at line 5, the word "instant" was changed to --present--.
- 5 2.79 On page 24, at line 23, the numeral --15-- was inserted after the word "MP."
- 2.80 On page 24, at line 24, the numeral --17-- was inserted after the word "IOP."
- 2.81 On page 24, at line 27, the numeral --15-- was inserted after the word "MP" and the phrase "Figure 9" was changed to --Figures 9A and 9B--.
- 2.82 On page 24, at line 31, the phrase "Figure 9" was changed to --Figures 9A and 10 9B--.
- 2.83 On page 24, at line 32, the numeral --77-- was inserted after the word "FPGA."
- 2.84 On page 26, at lines 18 and 19, the phrase --MP 15-- was substituted for the word "LMP" and the phrase --IOP 17-- was substituted for the word "LIOP."
- 15 2.85 On page 26, at line 21, the numeral --77-- was inserted after the word "FPGA."
- 2.86 On page 26, at lines 22 and 23, the phrase "Figure 11" was changed to --Figures 11A and 11B--.
- 2.87 On page 27, at lines 18 and 19, the numeral --17-- was inserted after the word 20 "IOP."
- 2.88 On page 28, at line 15, the phrase --2  $\mu$ sec-- was substituted for the phrase "2 usec."
- 2.89 On page 28, at line 24, the first occurrence of the word "module" was deleted, and the second occurrence was changed to the word --section--.
- 25 2.90 On page 29, at line 1, Roman number --II-- replaces Roman numeral "I".
- 2.91 On page 29, at lines 11 and 13, the word "MP" was changed to --MP/IOP module 1--.
- 2.92 On page 29, at line 17, the numeral --1-- was inserted before the comma after the first occurrence of the word "module."
- 30 2.93 On page 30, at line 5, the phrase --A suitable-- was substituted for the phrase "The particular."
- 2.94 On page 30, at line 20, the first occurrence of the word "the" was deleted, and phrase --power. The character-- was substituted for the phrase "power and the

character.”

**2.95** On page 30, at line 26, the phrase --MP/IOP-- was substituted for the word “MP.”

**2.96** On page 31, at line 10, the word --a-- was substituted for the word “the.”

5 **2.97** On page 31, at line 25, the phrase “insertion, vertical.” was changed to --insertion.--.

**2.98** On page 31, at line 26, the phrase --module 1-- was inserted after both occurrences of the word “MP/IOP”.

**2.99** On page 32, at line 29, the word “a” was deleted.

10 **2.100** On page 32, at line 31, the word “a” was changed to --the--.

**2.101** On page 32, at line 32, the numeral “50” was inserted before the period after the word “housing.”

**2.102** On page 33, 3 lines from the top, the phrase --and such other modules as may be necessary or appropriate-- was inserted before the period.

15 **2.103** On page 33, 14 lines from the top, the phrase --Table III-- was substituted for the word “table.”

**2.104** On page 33, 17 lines from the top, the phrase --Table III-- was substituted for the phrase “Table II.”

20 **2.105** On page 35, 7, 11, 14, 21, 23, and 24 lines from the top, the numeral --15-- was inserted after the word “MP.”

**2.106** On page 35, 7, 11, and 14 lines from the top, the numeral --17-- was inserted after the word “IOP.”

**2.107** On page 35, 13 lines from the top, the phrase --module 1-- was inserted after the word “MP/IOP.”

25 **2.108** On page 35, 16 lines from the top, the word --pulled-- was substituted for the word “pull.”

**2.109** On page 35, 23 lines from the top, the word --The-- was substituted for the word “he.”

30 **2.110** On page 36, lines 1, 5, 13 and 31, the word --present-- was substituted for the word “instant.”

**2.111** On page 36, lines 3 and 7, the numeral --77-- was inserted before the comma after the word “FPGA.”

**2.112** On page 36, lines 4, 8, 12, and 16, the word --defaults-- was substituted for the phrase “shall default.”

2.113 On page 36, lines 11 and 15, the number --77-- was substituted for the phrase “, see MCR register.”

2.114 On page 36, lines 20 and 29, the figure --17'-- was inserted before the period after the word “SX.”

5 2.115 On page 36, line 31, the word “present” was substituted for the word --instant--.

2.116 On page 37, at 8, 24, 26 and 28 lines from the top, the figure --15-- was inserted after the word “MP.”

10 2.117 On page 37, at 12 lines from the top, the phrase --17' programs-- was substituted for the phrase “shall program.”

2.118 On page 37, at 13 lines from the top, the sentence “See ‘Temperature sensor’ section for details.” has been deleted.

2.119 On page 37, at 16 lines from the top, the word --is—is inserted after the work “Unlock”.

15 2.120 On page 37, at 16-17 lines from the top, the sentence “See ‘Lock detector’ section for details.” has been deleted.

2.121 On page 37, at 20 lines from the top, the word --installation-- has been substituted for the misspelled word “instillation.”

20 2.122 On page 37, at 21 and 23 lines from the top, the numeral --17-- has been inserted after the word “IOP.”

2.123 On page 38, at lines 4 and 6, the numeral --15-- has been inserted after the word “MP.”

2.124 On page 38, at line 9, the Roman numeral --IV-- has been inserted after the word “table.”

25 2.125 On page 38, at line 10, the phrase --, Figure 18B,-- has been substituted for the phrase “(see page 143 for an illustration).”

2.126 On page 38, two new lines of text were added after line 12, pushing the existing text down by two lines. The new text reads, at line 13: --Table IV--, and at line 14: --Top Indicator Conditions--.

30 2.127 On page 39, on line 1, the Roman numeral --V-- was inserted after the word “table.”

2.128 On page 39, second line from the top, a space was added to separate the words “Power” and “indicator” which were erroneously run together.

2.129 On page 39, two new lines of text were added after line 2 from the top,

pushing the existing text down by two lines. The new text reads, at line 3: --Table V--, and at line 4: --Field Power Indicator Conditions--.

**2.130** On page 39, at 4 lines from the top, the Roman numeral --VI-- was inserted after the word "table."

5 **2.131** On page 39, two new lines of text were inserted after line 5 from the top, pushing the existing text down by two lines. The new text reads, at line 6: --Table VI--, and at line 7: --32 Point Indicator Conditions--.

**2.132** On page 39, at 7 lines from the top, the Roman numeral --VII-- was inserted after the word "table."

10 **2.133** On page 39, at 8 lines from the top, the phrase --see Figure 18C-- was substituted for the phrase "(see page 148 for an illustration)."

**2.134** On page 39, two new lines of text were added after line 10 from the top, pushing the existing text down by two lines. The new text reads, at line 11: --Table VII--, and at line 12: --DO Front Panel--.

15 **2.135** On page 40, at 12 lines from the top, the Roman numeral --VIII-- was inserted after the word "table."

**2.136** On page 40, two new lines of text were added after line 3 from the top, pushing the existing text down by two lines. The new text reads, at line 4: --Table VIII--, and at line 5: --Power/Load Indicator Conditions--.

20 **2.137** On page 40, at 5 lines from the top, the Roman numeral --IX-- was inserted after the word "table."

**2.138** On page 40, two new lines of text were added after line 6 from the top, pushing the existing text down by two lines. The new text reads, at line 7: --Table IX--, and at line 8: --16 Point Indicator Conditions--.

25 **2.139** On page 41, at 2 lines from the top, the Roman numeral --X-- was inserted after the word "table."

**2.140** On page 41, at 3 lines from the top, the phrase --Figure 18D-- was substituted for the phrase "page 158 for an illustration".

30 **2.141** On page 41, two new lines of text were added after line 5 from the top, pushing the existing text down by two lines. The new text reads, at line 6: --Table X--, and at line 7: --AI Top Indicator Conditions--.

**2.142** On page 41, at 7 lines from the top, the Roman numeral --XI-- was inserted after the word "table".

**2.143** On page 41, two new lines of text were added after line 8 from the top,



pushing the existing text down by two lines. The new text reads, at line 9:

--Table XI--, and at line 10: --Field Power Indicator Conditions--.

**2.144** On page 42, at 2 lines from the top, the Roman numeral --XII-- was inserted after the word "table".

5 **2.145** On page 42, at 3 lines from the top, the phrase -- (see Figure E) -- was substituted for the phrase "(see page 153 for an illustration)".

**2.146** On page 42, a new line of text was added after line 5 from the top, pushing the existing text down by one line. The new text at line 6 reads: --Table XII--.

10 **2.147** On page 42, at 7 lines from the top, the Roman numeral --XIII-- was inserted after the word "table".

**2.148** On page 42, a new line of text was added after line 8 from the top, pushing the existing text down by one line. The new text at line 9 reads: --Table XIII--.

15 **2.149** On page 43, a new line of text was added after line 1 from the top, pushing the existing text down by one line. The new text at line 2 reads: --Indicators for other input/output modules are similarly configured as necessary--.

**2.150** On page 43, at 10 lines from the top, the word --the-- was substituted for the word "a".

**2.151** On page 43, at 18 lines from the top, the word "ring" was replaced with the word --recess--.

20 **2.152** On page 44, at lines 13, 14 and 16 from the top, the number --15-- was inserted after the letters "MP".

**2.153** On page 45, at 8 lines from the top, the word --/IOP-- was added after the word "MP".

25 **2.154** On page 45, at 28 lines from the top, the number "III" was replaced with the number --XIV--.

**2.155** On page 46, at 5 lines from the top, the word "IOC" was replaced with the word --LIOC--.

**2.156** On page 46, at 7 lines from the top, the number --17-- was added after the word "IOP".

30 **2.157** On page 46, at 8 lines from the top, the word "IO" was replaced with the word --I/O--.

**2.158** On page 46, at 9 lines from the top, the word "IOC" was replaced with the word --LIOC--.

**2.159** On page 46, at 11 lines from the top, the number --15-- was added after the

word "MP".

**2.160** On page 47, at 6 and 11 lines from the top, the word --/IOP-- was added after the word "MP".

**2.161** On page 47, at 24 lines from the top, the word "modules" was replaced with the phrase --15 sections--.

**2.162** On page 48, at lines 4 and 6 from the top, the word "synchronization" was replaced with the word --Synchronization--.

**2.163** On page 48, at 7 lines from the top, the number --15'-- was added after the word "SX".

**2.164** On page 48, at 15 lines from the top, the word --/IOP-- was added after the word "MP".

**2.165** On page 48, at 19 lines from the top, the number "1" was replaced with the number --15--.

**2.166** On page 48, at 21 lines from the top, the word --The-- was added before the word "synchronization".

**2.167** On page 48, at 25 lines from the top, the word "therefor" was replaced with the word --therefore--.

**2.168** On page 48, at 26 lines from the top, the phrase "MP modules" was replaced with the word --MPs--.

**2.169** On page 48, at 27 lines from the top, the word --The-- was added before the word "synchronization".

**2.170** On page 48, at 29 lines from the top, the number --15-- was added before the word "MPC860".

**2.171** On page 49, at lines 12, 16 and 21 from the top, the number --77-- was added after the word "FPGA".

**2.172** On page 49, 20 lines from the top, the number --15-- was added after the word "MP".

**2.173** On page 51, at 16 lines from the top, the number --77-- was added after the word "FPGA".

**2.174** On page 51, at 16 lines from the top, the number "IV" was replaced with the number --XV--.

**2.175** On page 51, at 17 lines from the top, the number "IV" was replaced with the number --XV--.

**2.176** On page 51, at 18 lines from the top, the word "hex" was replaced with the

word --Hex--.

**2.177** On page 51, at 18 lines from the top, the word “format” was replaced with the word --Format--.

**2.178** On page 52, at 9 lines from the top, the number “IV” was replaced with the word --XV--.

**2.179** On page 53, at lines 6 and 7 from the top, the phrase “(See TT control register)” was deleted.

**2.180** On page 54, 4 lines from the top, the word “instant” was replaced by --present--.

**2.181** On page 54, 5 lines from the top, the words “10b” were replaced by --10B-- and “MP” was replaced by --MP/IOP--.

**2.182** On page 54, line 6, Channel “1111” was replaced by --Channel 11--.

**2.183** On page 54, line 9, the period “. “ was removed after the word “isolation”.

**2.184** On page 54, line 10, --15-- was added after “MPs”.

**2.185** On page 54, line 18, the word “instant” was replaced by --present--.

**2.186** On page 54, line 27, --15-- was added after “MPs”.

**2.187** On page 54, line 29, the apostrophe --'-- was removed after “MP 15”.

**2.188** On page 55, line 9, the word --module-- was added after MP/IOP.

**2.189** On page 55, line 11, “V” was replaced by --XVI-- and the word --module-- was added after “MP/IOP”.

**2.190** On page 55, line 13, the colon “:” was replaced by a period --.-- at the end of the sentence.

**2.191** On page 55, line 14, “V” was replaced by --XVI--.

**2.192** On page 55, line 15, “mode” was replaced by --Mode-- and “comparison” was replaced by --Comparison--.

**2.193** On page 56, line 2, --15-- was inserted after “MP”.

**2.194** On page 56, line 4, “V” was replaced by --XVI--.

**2.195** On page 56, line 5, the word --test-- replaced the words “also be.”

**2.196** On page 56, line 10, the period “.” is removed after the word “channel”.

**2.197** On page 56, line 14, the words --a suitable-- replaced “the” and --15-- was inserted after “MP”.

**2.198** On page 56, line 25, the period “.” was deleted after the word “CHANNEL”.

**2.199** On page 56, line 26, --15-- was inserted after “MP”.

**2.200** On page 57, line 1, --15-- was inserted after “MP”.

2.201 On page 57, line 2, --15-- was inserted after "MPs".

2.202 On page 57, line 9 and 10, --15-- was inserted after "MP".

2.203 On page 57, line 12, "11." was replaced by --11--.

2.204 On page 58, line 3, the colon after "used" was replaced by a period.

5 2.205 On page 58, line 4, the title "Table VII" was replaced by --Table XVII--.

2.206 On page 59, line 1, the title "Table VIII" was replaced by --Table XVIII--.

2.207 On page 60, line 1, the title "Table IX" was replaced by --Table XIX--.

2.208 On page 61, at line 4, the word "Upstreams" was changed to --Upstream--.

2.209 On page 61, at line 16, the word "Abbreviations" was replaced with the word

10 --ABBREVIATIONS--.

2.210 On page 62, at line 23, the language "or ????" was deleted.

2.211 On page 62, at line 26, the language "Used for ????" was deleted.

2.212 On page 62, at line 29, the "]" after the period was deleted.

2.213 On page 63, at line 27, the phrase "Figure 11" was replaced with --Figures

15 11A and 11B--.

2.214 On page 64, at line 7, --or IO-- was inserted after the first occurrence of "LIO" and --IO-- replaces "LIO" at the end of the line.

2.215 On page 64, at line 10, the term --LIOX or-- was inserted before "IOX".

2.216 On page 64, at line 12, the term --or RXM-- was inserted after "LRXM"

20 2.217 On page 64, at line 13, the term --LSX or-- was inserted before "SX" and the word "instant" was replaced by the word --present--.

2.218 On page 65, at line 1, the term --LMP/LIOP or-- was inserted before "MP/IOP" and the word "and" was replaced with --/--.

2.219 On page 65, five new lines of text were added before line 7, pushing the

25 existing text down by five lines. The new text reads: --While specific embodiments of this invention has been described above, those skilled in the art will readily appreciate that many modifications are possible in the specific embodiment, without materially departing from the novel teachings and advantages of this invention. Accordingly, all such modifications are intended to be included within the scope of

30 this invention.--

### AMENDMENTS TO THE CLAIMS

3.0 The claims have been amended as follows and the changes indicated below have been incorporated into the attached replacement pages.

3.1 Please amend claim 1 as follows: